

**IPC DEFINITION PROJECT FILES/
DOSSIERS DE PROJET DE DÉFINITION DE LA CIB**

**ELECTRICAL FIELD/
DOMAINE DE L'ÉLECTRICITÉ**



IPC/D 009/00

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WORLD INTELLECTUAL PROPERTY ORGANIZATION
ORGANISATION MONDIALE DE LA PROPRIÉTÉ INTELLECTUELLE
GENEVA/GENÈVE

COMMITTEE OF EXPERTS OF THE IPC UNION
COMITÉ D'EXPERTS DE L'UNION DE L'IPC

IPC DEFINITION PROJECT FILE/DOSSIER DE PROJET DE DÉFINITION DE LA CIB

PROPOSAL BY: PROPOSITION DE :	EP	IPC AREA: DOMAINE DE LA CIB :	G 01 N
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ANNEX/ ANNEXE	CONTENT/CONTENU	ORIGIN/ ORIGINE	DATE
1	Proposal / Proposition	EP	12.01
2	Comments / Observations	JP	12.01
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RAPPORTEUR : EP

TECHNICAL FIELD/DOMAINE TECHNIQUE :

E



EUROPEAN PATENT OFFICE
Principal Directorate Documentation

Rapporteur Report
10 September 2002

Definition Project: D009
Subclass: G01N

Ref: Annexes 10-11 of the project file

No comments were received on the **R**'s proposal (Annex-10) dated March 22, 2002.

In the submitted new proposal the following amendments were introduced.

- The new template given by the IB on August 20, 2002 has been used.
- All material that was temporarily stroke-out in the last proposal, expecting possible comments, has been removed.
- The subclass index proposed on May 28, 2002 (Annex-11), which listed the main groups in order of decreasing complexity while taking into account the existing Precedence Rules, has been incorporated under the Definition Statement for this subclass (after "The following list is intended to assist the user").

Roberto Iasevoli

Title – G01N

Investigating or analysing materials by determining their chemical or physical properties

The scope of the subclass [G01N](#) is so broad that a detailed description of the subject matter appropriate for this place is correctly possible only at the main-group level, e.g. [G01N21/00](#).

Provisions that are valid at a general level (e.g. of a kind appropriate to more than one of the main groups) are provided in the sections that follow.

The user is otherwise referred to the IPC definitions for the individual main groups of [G01N](#), which follow hereinafter. The following list is intended to assist the user.

Investigating or analysing with emphasis to the properties investigated

Mechanical strength	see IPC definition for group G01N3/00
Density, specific gravity	see IPC definition for group G01N9/00
Flow, viscosity, plasticity	see IPC definition for group G01N11/00
Surface, boundary or diffusion effects	see IPC definition for group G01N13/00
Characteristics of particles and porous materials	see IPC definition for group G01N15/00
Resistance to weather, to corrosion, or to light	see IPC definition for group G01N17/00
Friction, adhesive force	see IPC definition for group G01N19/00

Investigating or analysing with emphasis to the methods or means used

Mechanical stress	see IPC definition for group G01N3/00
Weighing	see IPC definition for group G01N5/00
Measuring pressure or volume of gas	see IPC definition for group G01N7/00
Scanning-probe techniques	see IPC definition for group G01N13/00
Mechanical	see IPC definition for group G01N19/00
Optical	see IPC definition for group G01N21/00
Magnetic resonance, spin effects	see IPC definition for group G01N24/00
Microwaves	see IPC definition for group G01N22/00
Other wave or particle radiation	see IPC definition for group G01N23/00
Thermal	see IPC definition for group G01N25/00
Electric, electrochemical, magnetic	see IPC definition for group G01N27/00
Sonic	see IPC definition for group G01N29/00
Separation into components	see IPC definition for group G01N30/00

Chemical means as to non-biological materials	see IPC definition for group G01N31/00
Other specific methods	see IPC definition for group G01N33/00

Others

Sampling, preparing	see IPC definition for group G01N1/00
Specific materials	see IPC definition for group G01N33/00
Biological material by chemical analysis	see IPC definition for group G01N33/50
Immunological testing	see IPC definition for group G01N33/50
Automatic analysis	see IPC definition for group G01N35/00
Details	see IPC definition for group G01N37/00

Relationships between large subject matter areas

Apparatus fully provided for in a single other subclass, see the relevant subclass, e.g. [B01L](#).

Sensing humidity changes for compensating measurements of other variables or for compensating readings of instruments for variations in humidity, see [G01D](#) or the relevant subclass for the variable measured.

Testing or determining the properties of structures, e.g. apparatus, machine parts etc, is classified in [G01M](#), as opposed to investigating, i.e. testing or determining (see Glossary), the properties of material samples, which is classified here.

Measuring or investigating electric or magnetic properties of materials is classified in [G01R](#), as opposed to investigating materials by electric or magnetic means, which is classified in [G01N27/00](#).

Limiting references

This subclass does not cover:

Measuring or testing processes, other than immunoassay, involving enzymes or micro-organisms	C12M C12Q
<i>In-situ</i> investigation of foundation soil	E02D1/00
Monitoring or diagnostic devices for exhaust-gas treatment apparatus	F01N11/00
Testing or determining the properties of structures, e.g. apparatus, machine parts etc, covered by G01M (see also Relationships between large subject matter areas, above)	G01M
Measuring, investigating or testing electric or magnetic properties of materials (see also Relationships between large subject matter areas, above)	G01R
Determining sensitivity, graininess, or density of photographic materials	G03C5/02
Testing component parts of nuclear reactors	G21C17/00

Informative references

Attention is drawn to the following places, which might be of interest for search:

Separating components of materials in general	B01D B01J B03 B07
Systems for direction-finding, navigation, locating, presence-detecting using the reflection or reradiation of radio waves, or analogous arrangements using other waves	G01S
Systems for controlling or regulating non-electric variables	G05D
Systems for controlling or regulating electric or magnetic variables	G05F

Glossary

In this subclass the following terms (expressions) are used with the meanings indicated:

investigating means testing or determining;

materials includes solid, liquid or gaseous media, e.g. the atmosphere.

Title – G01N1/00

Sampling; Preparing specimens for investigation

Definition statement

This group covers:

Devices for withdrawing samples of material. Samples may be taken from e.g. bulk material, from flowing streams, or from collections of discrete items.

Devices for manipulating samples and transferring them to an analysis site.

Chemical or physical methods of preparing specimens for investigation, and apparatus for performing such methods.

Limiting references

This group does not cover:

Automatic analysis; handling materials therefor	G01N35/00
<i>In-vivo</i> sampling from the human or animal body, especially for diagnostic purposes	A61B

Sampling of foundation soil or groundwater	E02D1/00
Sampling of well fluids	E21B49/00
Mounting specimens on microscope slides	G02B21/00

Informative references

Attention is drawn to the following places, which might be of interest for search:

Chemical or physical laboratory apparatus or processes in general that can be used for preparing samples to be investigated	B01 B02 B03 B04 B07
Details of nuclear or X-radiation measuring instruments, e.g. collecting or conveying of samples	G01T7/00

Glossary

In this group the following terms (expressions) are used with the meanings indicated:

sample material separated from a bulk material or an assembly of items for the purpose of investigating its properties.

Title – G01N3/00

Investigating strength properties of solid materials by application of mechanical stress

Definition statement

This group covers:

Stressing of materials not only below but also beyond the elastic limit, e.g. until breaking occurs.

Application of mechanical stress:

- globally, e.g. tensile testing
- locally, i.e. at particular points in the sample, e.g. hardness testing, investigating resistance to wear or abrasion
- of both static and dynamic mechanical stress
- by non-mechanical methods, e.g. by rapid temperature changes

Testing apparatus and sample holders used in such investigations

Limiting references

This group does not cover:

Investigating elasticity of structures, e.g. deflection of bridges	G01M5/00
Vibration-testing or shock-testing of structures	G01M7/00

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Investigating or analysing surface structures in atomic ranges using scanning-probe techniques, e.g. atomic force microscopy (ATM)	G01N13/10
Investigating properties of materials by other mechanical methods, especially measuring adhesive force (group G01N19/04) or coefficient of friction (group G01N19/02)	G01N19/00
Automatic analysis; handling materials therefor	G01N35/00
Arrangements for measuring length, thickness --- irregularities of surfaces or contours, especially group G01B3/00 for instruments as specified in the subgroups and characterised by the use of mechanical measuring means, and group G01B5/00 for arrangements characterised by the use of mechanical means	G01B
Measuring force or stress in general	G01L1/00

Title – G01N5/00

Analysing materials by weighing, e.g. weighing small particles separated from a gas or liquid

Definition statement

This group covers:

Analysing materials by weighing.

Analysing materials by absorbing or adsorbing components of a material and determining change of weight of the adsorbent, e.g. for determining moisture content.

Analysing materials by removing a component, e.g. by evaporation, and weighing the remainder.

Limiting references

This group does not cover:

Investigating density or specific gravity of materials; analysing materials by determining density or specific	G01N9/00
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Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Automatic analysis; handling materials therefor	G01N35/00
Weighing	G01G

Title – G01N7/00

Analysing materials by measuring the pressure or volume of a gas or vapour

Definition statement

This group covers:

Analysing materials by absorption, adsorption, or combustion of components and measurement of the change in pressure or volume of the remainder.

Analysing materials by allowing diffusion of components through a porous wall and measuring a pressure or volume difference.

Analysing materials by allowing the material to emit a gas or vapour, e.g. water vapour, and measuring a pressure or volume difference.

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Automatic analysis; handling materials therefor	G01N35/00
Measuring volume	G01F17/00 G01F19/00 G01F22/00
Measuring fluid pressure	G01L7/00 G01L9/00 G01L11/00 G01L13/00 G01L15/00 G01L17/00 G01L19/00 G01L21/00 G01L23/00

Title – G01N9/00

Investigating density or specific gravity of materials; Analysing materials by determining density or specific gravity

Definition statement

This group covers:

Measurement of density by direct methods, like:

- of the weight of a known volume of material
- application of Archimedes' principle
- measurement of hydrostatic pressure

Determination of density from a related property of the material, e.g. by observing the transmission of wave or particle radiation through the material.

Deducing other properties of the material from its density.

Determining the apparent density of granular solid materials.

Instruments for measuring density.

Limiting references

This group does not cover:

Measurement of optical density, i.e. opacity

G01N21/00

The use of essentially conventional density measuring means in other systems, e.g. to control a manufacturing process; control systems in general are covered by G05

G05

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation

G01N1/00

Investigating or analysing materials by the use of optical means, i.e. using infra-red, visible, or ultra-violet light

G01N21/00

Investigating or analysing materials by the use of microwaves

G01N22/00

Investigating or analysing materials by the use of other wave or particle radiation, e.g. X-rays or neutrons

G01N23/00

Automatic analysis; handling materials therefor	G01N35/00
Measuring volume, volume flow, or liquid level	G01F
Weighing	G01G

Glossary

In this group the following terms (expressions) are used with the meanings indicated:

density mass per unit volume

Title – G01N11/00

**Investigating flow properties of materials, e.g. viscosity, plasticity;
Analysing materials by determining flow properties**

Definition statement

This group covers:

Measurement of viscosity of Newtonian and non-Newtonian fluids.

Measuring other rheological properties of fluids, e.g. plasticity, yield stress, melt flow index.

Instruments for measuring these properties.

Limiting references

This group does not cover:

Measurement of blood viscosity *in-vivo* or in extra corporeal circulation A61B

The use of essentially conventional viscosity measuring means in other systems, e.g. to control a manufacturing process; control systems in general are covered by G05

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Investigating permeability of porous materials	G01N15/08
Specific methods of analysis of biological materials	G01N33/48
Automatic analysis; handling materials therefor	G01N35/00
Measuring volume, volume flow, or liquid level	G01F

Glossary

In this group the following terms (expressions) are used with the meanings indicated:

fluid includes flowable solids

Title – G01N13/00

**Investigating surface or boundary effects;
Analysing materials by determining surface, boundary, or diffusion effects;
Investigating or analysing surface structures in atomic ranges**

Definition statement

This group covers:

Investigating surface properties of solids, e.g. surface energy.

Investigating properties of interfaces between solids and fluids or between different fluids, especially:

- diffusion
- dissolution of solids in fluids, including dissolution testing of solid dosage forms of pharmaceuticals
- wetting power, contact angle, surface tension
- osmosis

Investigating surface structures in the atomic range by scanning probe-techniques, including:

- scanning tunnelling microscopy (STM)
- scanning near-field optical microscopy (SNOM)
- atomic force microscopy (AFM)
- scanning ion-conductance microscopy (SICM)
- scanning capacitance microscopy (SCM)
- magnetic force microscopy (MFM)
- scanning electrochemical microscopy

Limiting references

This group does not cover:

Investigating surface area or porosity of porous solids	G01N15/08
Thermodynamic interactions between different phases of the same substance	G01N2502
Determination of the shape or roughness of surfaces	G01B
Electron microscopy in general	H01J37/00

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Automatic analysis; handling materials therefor	G01N35/00
Pharmaceutical compositions	A61K
Separation, especially group B01D61/00 for separation processes involving semi-permeable membranes	B01D

Title – G01N15/00

**Investigating characteristics of particles;
Investigating permeability, pore-volume or surface-area of porous materials**

Definition statement

This group covers:

Investigating characteristics of blood cells.

Limiting references

This group does not cover:

Investigating concentration of particle suspensions by weighing	G01N5/00
Investigating particle size or size distribution by measuring osmotic pressure	G01N7/10
Analysis of particles by filtering	B01D
Analysis of particles by sifting	B07B

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Automatic analysis; handling materials therefor	G01N35/00
Measuring or testing processes involving enzymes or micro-organisms --- identification of micro-organisms	C12Q

Title – G01N17/00**Investigating resistance of materials to the weather, to corrosion, or to light****Definition statement**

This group covers:

Investigating resistance of materials to atmospheric agents.

The detection of fouling.

Specially adapted electrochemical means used in such investigations.

Limiting references

This group does not cover:

Investigating resistance to wear or abrasion	G01N3/56
Investigating resistance to rapid heat changes	G01N3/60
Measuring wear by the use of optical means	G01N21/00
Detection of fouling by measuring thermal conductivity	G01N25/18

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Investigating or analysing materials by the use of electrochemical means	G01N27/26
Automatic analysis; handling materials therefor	G01N35/00
Methods or apparatus for cathodic or anodic protection	C23F13/00
Measuring irregularities of surfaces or contours of material	G01B

Title – G01N19/00**Investigating materials by mechanical methods****Definition statement**

This group covers:

Measuring:

- coefficient of friction
- adhesive force between materials
- moisture content by mechanical methods, e.g. from the change of length of a hygroscopic filament
- mechanical properties other than strength properties

Instruments, e.g. hygrometers, for measuring the properties listed above.

Limiting references

This group does not cover:

Investigating strength properties of solid materials by application of mechanical stress	G01N3/00
Analysing materials by weighing, e.g. weighing small particles separated from a gas or liquid	G01N5/00
Analysing materials by measuring the pressure or volume of a gas or vapour	G01N7/00
Investigating density or specific gravity of materials; analysing materials by determining density or specific	G01N9/00
Investigating flow properties of materials, e.g. viscosity, plasticity; analysing materials by determining flow properties	G01N11/00
Investigating surface or boundary effects, e.g. wetting power; investigating diffusion effects; analysing materials by determining surface, boundary, or diffusion effects	G01N13/00
Investigating characteristics of particles; investigating permeability, pore-volume, or surface-area of porous materials	G01N15/00
Investigating resistance of materials to the weather, to corrosion, or to light	G01N17/00
Determination of friction coefficient between road and wheel without additional sensors; application of friction determinations to the control of vehicle braking	B60T
Measuring roughness or irregularity of surfaces, characterized by the use of mechanical means	G01B5/28

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Thermodynamic methods of measuring moisture content	G01N25/56
Specific methods of analysis of biological materials	G01N33/48
Automatic analysis; handling materials therefor	G01N35/00

Title – G01N21/00

Investigating or analysing materials by the use of optical means, e.g. using infra-red, visible or ultra-violet light

Definition statement

This group covers:

Arrangements or apparatus for facilitating the optical investigation, e.g. cuvettes.

Systems in which incident light is modified in accordance with the properties of the material investigated, e.g. spectral properties.

Systems in which the material investigated is excited whereby it emits light or causes a change in wavelength of the incident light, e.g. photoluminescence or electro-luminescence.

Systems in which material is subjected to a chemical reaction, the progress or the result of the reaction being investigated, e.g. chemo-luminescence.

Investigating the presence of flaws, defects or contamination, e.g. by inspecting.

Relationships between large subject matter areas

Arrangements for measuring length, thickness --- irregularities of surfaces or contours, are classified in [G01B](#), as opposed to investigating, i.e. testing or determining, the properties of material samples, which is classified here.

Testing or determining the properties of structures, e.g. apparatus, machine parts etc, is classified in [G01M](#), as opposed to investigating, i.e. testing or determining, the properties of material samples, which is classified here.

Limiting references

This group does not cover:

Investigating strength properties of solid materials by application of mechanical stress [G01N3/00](#)

Analysing materials by weighing, e.g. weighing small particles separated from a gas or liquid [G01N5/00](#)

Analysing materials by measuring the pressure or volume of a gas or vapour [G01N7/00](#)

Investigating density or specific gravity of materials; analysing materials by determining density or specific [G01N9/00](#)

Investigating flow properties of materials, e.g. viscosity, plasticity; analysing materials by determining flow properties [G01N11/00](#)

Investigating surface or boundary effects, e.g. wetting power; investigating diffusion effects; analysing materials by determining surface, boundary, or diffusion effects	G01N13/00
Investigating characteristics of particles; investigating permeability, pore-volume, or surface-area of porous materials	G01N15/00
Investigating resistance of materials to the weather, to corrosion, or to light	G01N17/00
Investigating materials by mechanical methods	G01N19/00
Investigation of spectral properties of light per se, or measurements of the properties of materials where spectral properties of light are sensed and primary emphasis is placed on creating, detecting or analysing the spectrum providing that the properties of the materials to be investigated are of minor importance	G01J3/00
Radiation pyrometry	G01J5/00
Testing of optical apparatus, elements and systems (see also Relationships between large subject matter areas, above); testing structures by optical methods not otherwise provided for	G01M11/00
Contactless testing of electronic circuits using optical radiation	G01R31/308

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Specific materials	G01N33/00
Automatic analysis; handling materials therefor	G01N35/00
Diagnosis; surgery; identification --- especially group A61B5/00 , for measuring for diagnostic purposes	A61B
Chemical or physical laboratory apparatus for general use, especially group B01L3/00 for glassware, e.g. sample holders	B01L
Arrangements for measuring length, thickness --- irregularities of surfaces or contours (see also Relationships between large subject matter areas, above), especially group G01B9/00 for instruments as specified in the subgroups and characterised by the use of optical measuring means, and group G01B11/00 for arrangements characterised by the use of optical means	G01B
Measuring force or stress by measuring variations of optical properties of material when it is stressed, e.g. by photoelastic stress analysis	G01L1/24
Prospecting or detecting by the use of optical means	G01V8/00
Optical elements of measuring instruments, e.g. group G02B21/00 for microscopes	G02B
Image analysis	G06T7/00

Title – G01N22/00**Investigating or analysing materials by the use of microwaves****Definition statement**

This group covers:

Investigating or analysing materials by the use of microwave radiation, i.e. with a wavelength typically of a few micrometers or more.

Limiting references

This group does not cover:

Investigating strength properties of solid materials by application of mechanical stress	G01N3/00
Analysing materials by weighing, e.g. weighing small particles separated from a gas or liquid	G01N5/00
Analysing materials by measuring the pressure or volume of a gas or vapour	G01N7/00
Investigating density or specific gravity of materials; analysing materials by determining density or specific	G01N9/00
Investigating flow properties of materials, e.g. viscosity, plasticity; analysing materials by determining flow properties	G01N11/00
Investigating surface or boundary effects, e.g. wetting power; investigating diffusion effects; analysing materials by determining surface, boundary, or diffusion effects	G01N13/00
Investigating characteristics of particles; investigating permeability, pore-volume, or surface-area of porous materials	G01N15/00
Investigating resistance of materials to the weather, to corrosion, or to light	G01N17/00
Investigating or analysing materials by the use of nuclear magnetic resonance, electron paramagnetic resonance or other spin effects	G01N24/00

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Automatic analysis; handling materials therefor	G01N35/00

Title – G01N23/00**Investigating or analysing materials by the use of wave or particle radiation not covered by group G01N21/00 or G01N22/00, e.g. X-rays, neutrons****Definition statement***This group covers:*

Investigating or analysing materials by the use of wave radiation of very low wavelength (high energy), i.e. with a wavelength typically of a few nanometres or less, e.g. X-rays.

Investigating or analysing materials by the use of particle radiation, e.g. neutrons, ions or electrons.

Limiting references*This group does not cover:*

- | | |
|--|-----------|
| Investigating strength properties of solid materials by application of mechanical stress | G01N3/00 |
| Analysing materials by weighing, e.g. weighing small particles separated from a gas or liquid | G01N5/00 |
| Analysing materials by measuring the pressure or volume of a gas or vapour | G01N7/00 |
| Investigating density or specific gravity of materials; analysing materials by determining density or specific | G01N9/00 |
| Investigating flow properties of materials, e.g. viscosity, plasticity; analysing materials by determining flow properties | G01N11/00 |
| Investigating surface or boundary effects, e.g. wetting power; investigating diffusion effects; analysing materials by determining surface, boundary, or diffusion effects | G01N13/00 |
| Investigating characteristics of particles; investigating permeability, pore-volume, or surface-area of porous materials | G01N15/00 |
| Investigating resistance of materials to the weather, to corrosion, or to light | G01N17/00 |
| Investigating or analysing materials by the use of optical means, i.e. using infra-red, visible, or ultra-violet light | G01N21/00 |
| Investigating or analysing materials by the use of microwaves | G01N22/00 |

Informative references*Attention is drawn to the following places, which might be of interest for search:*

Sampling; preparing specimens for investigation	G01N1/00
Automatic analysis; handling materials therefore	G01N35/00
Apparatus for radiation diagnosis, e.g. combined with radiation therapy equipment	A61B6/00
Arrangements for measuring length, thickness --- irregularities of surfaces or contours, characterised by the use of wave or particle radiation	G01B15/00
Measuring force or stress by the use of wave or particle radiation	G01L1/25
Measurement of nuclear or X-radiation	G01T
Prospecting or detecting by the use of nuclear radiation, e.g. of natural or induced radioactivity	G01V5/00
Image analysis	G06T7/00
Nuclear reactors	G21C
Protection against X-radiation, gamma radiation, corpuscular radiation --- treating radioactively contaminated material	G21F
Techniques for handling particles or electromagnetic radiation not otherwise provided for --- gamma- or X-ray microscopes	G21K
Electric discharge tubes or discharge lamps, especially group H01J35/00 for X-ray tubes, and group H01J37/00 for electron microscopy	H01J
X-ray technique	H05G

Title – G01N24/00

Investigating or analysing materials by the use of nuclear magnetic resonance, electron paramagnetic resonance or other spin effects

Definition statement

This group covers:

Investigating or analysing materials by using:

- nuclear magnetic resonance (NMR)
- electron paramagnetic resonance (EPR)
- double resonance
- cyclotron resonance

Limiting references

This group does not cover:

Arrangements or instruments for measuring magnetic resonance effects using NMR, EPR, or other spin-effect	G01R33/20
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Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Automatic analysis; handling materials therefor	G01N35/00
Measuring for diagnosis by using electronic (EMR) or nuclear (NMR) magnetic resonance, e.g. magnetic resonance imaging	A61B5/055

Title – [G01N25/00](#)

Investigating or analysing materials by the use of thermal means

Definition statement

This group covers:

Thermal and calorimetric analysis.

Thermography.

Investigating:

- changes of state or changes of phase
- sintering
- thermal coefficient of expansion
- thermal conductivity
- development of heat, i.e. calorimetry
- flash-point
- explosibility
- moisture content
- presence of flaws
- specific heat

Limiting references

This group does not cover:

Investigating strength properties of solid materials by application of mechanical stress	G01N3/00
Analysing materials by weighing, e.g. weighing small particles separated from a gas or liquid	G01N5/00
Analysing materials by measuring the pressure or volume of a gas or vapour	G01N7/00
Investigating density or specific gravity of materials; analysing materials by	G01N9/00

determining density or specific

Investigating flow properties of materials, e.g. viscosity, plasticity; analysing materials by determining flow properties [G01N11/00](#)

Investigating surface or boundary effects, e.g. wetting power; investigating diffusion effects; analysing materials by determining surface, boundary, or diffusion effects [G01N13/00](#)

Investigating characteristics of particles; investigating permeability, pore-volume, or surface-area of porous materials [G01N15/00](#)

Investigating resistance of materials to the weather, to corrosion, or to light [G01N17/00](#)

Investigating materials by mechanical methods [G01N19/00](#)

Investigating or analysing materials by the use of optical means, i.e. using infra-red, visible, or ultra-violet light [G01N21/00](#)

Investigating or analysing materials by the use of microwaves [G01N22/00](#)

Investigating or analysing materials by the use of other wave or particle radiation, e.g. X-rays or neutrons [G01N23/00](#)

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation [G01N1/00](#)

Automatic analysis; handling materials therefor [G01N35/00](#)

Radiation pyrometry [G01J5/00](#)

Measuring temperature or quantity of heat; thermally-sensitive elements not otherwise provided for [G01K](#)

Title – [G01N27/00](#)

Investigating or analysing materials by the use of electric, electro-chemical, or magnetic means

Definition statement

This group covers:

Investigating non-electric or non-magnetic properties of materials by using electric or magnetic methods.

Investigating by electrochemical means, e.g.:

- investigating electrochemical variables, e.g. pH, ion concentration, potentiometry, amperometry, voltammetry
- the use of electrolysis or electrophoresis as analytical means

Instruments, e.g. hygrometers, for measuring non-electric or non-magnetic properties.

Relationships between large subject matter areas

Measuring or investigating electric or magnetic properties of materials is classified in [G01R](#), as opposed to investigating materials by electric or magnetic means, which is classified here.

Limiting references

This group does not cover:

Investigating strength properties of solid materials by application of mechanical stress	G01N3/00
Analysing materials by weighing, e.g. weighing small particles separated from a gas or liquid	G01N5/00
Analysing materials by measuring the pressure or volume of a gas or vapour	G01N7/00
Investigating density or specific gravity of materials; analysing materials by determining density or specific	G01N9/00
Investigating flow properties of materials, e.g. viscosity, plasticity; analysing materials by determining flow properties	G01N11/00
Investigating surface or boundary effects, e.g. wetting power; investigating diffusion effects; analysing materials by determining surface, boundary, or diffusion effects	G01N13/00
Investigating characteristics of particles; investigating permeability, pore-volume, or surface-area of porous materials	G01N15/00
Investigating resistance of materials to the weather, to corrosion, or to light	G01N17/00
Investigating materials by mechanical methods	G01N19/00
Investigating or analysing materials by the use of optical means, i.e. using infra-red, visible, or ultra-violet light	G01N21/00
Investigating or analysing materials by the use of microwaves	G01N22/00
Investigating or analysing materials by the use of other wave or particle radiation, e.g. X-rays or neutrons	G01N23/00
Investigating or analysing materials by the use of nuclear magnetic resonance, electron paramagnetic resonance or other spin effects	G01N24/00
Investigating or analysing materials by the use of thermal means	G01N25/00
Dielectrophoresis	B03C5/00
Measuring or investigating electric or magnetic properties of materials (see also Relationships between large subject matter areas, above)	G01R
Electric or magnetic prospecting or detecting. measuring magnetic field characteristics of the earth, e.g. declination, deviation	G01V3/00

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Investigating or analysing materials by separation into components using adsorption, absorption or similar phenomena or using ion-exchange, e.g. field-flow fractionation, chromatography, and related techniques	G01N30/00
Automatic analysis; handling materials therefor	G01N35/00
Chemical or physical processes, e.g. catalysis, colloid chemistry; their relevant apparatus, for electrochemical processes or apparatus in general	B01J19/00
Arrangements for measuring length, thickness --- irregularities of surfaces or contours, characterised by the use of electric or magnetic means	G01B7/00
Processes or means, e.g. batteries, for the direct conversion of chemical into electrical energy; group H01M6/00 for galvanic primary cells, and group H01M6/28 for standard cells	H01M

Title – G01N29/00

**Investigating or analysing materials by the use of ultrasonic, sonic or infrasonic waves;
 Visualisation of the interior of objects by transmitting ultrasonic or sonic waves through the object**

Definition statement

This group covers:

Devices and detectors specially adapted to the method of analysis.

Limiting references

This group does not cover:

Investigating strength properties of solid materials by application of mechanical stress	G01N3/00
Analysing materials by weighing, e.g. weighing small particles separated from a gas or liquid	G01N5/00
Analysing materials by measuring the pressure or volume of a gas or vapour	G01N7/00
Investigating density or specific gravity of materials; analysing materials by determining density or specific	G01N9/00
Investigating flow properties of materials, e.g. viscosity, plasticity; analysing materials by determining flow properties	G01N11/00
Investigating surface or boundary effects, e.g. wetting power; investigating diffusion effects; analysing materials by determining surface, boundary, or diffusion effects	G01N13/00

Investigating characteristics of particles; investigating permeability, pore-volume, or surface-area of porous materials	G01N15/00
Investigating resistance of materials to the weather, to corrosion, or to light	G01N17/00
Investigating materials by mechanical methods	G01N19/00
Investigating or analysing materials by the use of optical means, i.e. using infra-red, visible, or ultra-violet light	G01N21/00
Investigating or analysing materials by the use of microwaves	G01N22/00
Investigating or analysing materials by the use of other wave or particle radiation, e.g. X-rays or neutrons	G01N23/00
Investigating or analysing materials by the use of nuclear magnetic resonance, electron paramagnetic resonance or other spin effects	G01N24/00
Investigating or analysing materials by the use of thermal means	G01N25/00
Investigating or analysing materials by the use of electric, electro-chemical, or magnetic means	G01N27/00

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Specific materials	G01N33/00
Automatic analysis; handling materials therefor	G01N35/00
Diagnosis using ultrasonic, sonic or infrasonic waves	A61B8/00
Generating mechanical vibrations in solids (in fluids G10K)	B06B
Arrangements for measuring length, thickness --- irregularities of surfaces or contours, characterised by the use of ultrasonic, sonic or infrasonic vibrations	G01B17/00
Measuring or indicating of mechanical vibrations or ultrasonic, sonic or infrasonic waves	G01H
Systems for direction-finding, navigation, locating, presence-detecting using the reflection or reradiation of radio waves, e.g. sonar systems	G01S15/00
Prospecting or detecting by the use of seismic or acoustic means	G01V5/00
Obtaining records by techniques analogous to photography using ultrasonic, sonic or infrasonic waves	G03B42/06
Image analysis	G06T7/00
Generating mechanical vibrations in fluids (in solids B06B)	G10K

Title – G01N30/00

Investigating or analysing materials by separation into components

Definition statement

This group covers:

Separation into components using adsorption, absorption or similar phenomena or using ion exchange, e.g. field-flow fractionation, chromatography and related techniques.

Detectors specifically adapted to the method of analysis.

Limiting references

This group does not cover:

Investigating strength properties of solid materials by application of mechanical stress	G01N3/00
Analysing materials by weighing, e.g. weighing small particles separated from a gas or liquid	G01N5/00
Analysing materials by measuring the pressure or volume of a gas or vapour	G01N7/00
Investigating density or specific gravity of materials; analysing materials by determining density or specific	G01N9/00
Investigating flow properties of materials, e.g. viscosity, plasticity; analysing materials by determining flow properties	G01N11/00
Investigating surface or boundary effects, e.g. wetting power; investigating diffusion effects; analysing materials by determining surface, boundary, or diffusion effects	G01N13/00
Investigating characteristics of particles; investigating permeability, pore-volume, or surface-area of porous materials	G01N15/00
Investigating resistance of materials to the weather, to corrosion, or to light	G01N17/00
Investigating materials by mechanical methods	G01N19/00
Investigating or analysing materials by the use of optical means, i.e. using infra-red, visible, or ultra-violet light	G01N21/00
Investigating or analysing materials by the use of microwaves	G01N22/00
Investigating or analysing materials by the use of other wave or particle radiation, e.g. X-rays or neutrons	G01N23/00
Investigating or analysing materials by the use of nuclear magnetic resonance, electron paramagnetic resonance or other spin effects	G01N24/00
Investigating or analysing materials by the use of thermal means	G01N25/00
Investigating or analysing materials by the use of electric, electro-chemical, or magnetic means	G01N27/00
Investigating or analysing materials by the use of ultrasonic, sonic or infrasonic waves; visualisation of the interior of objects by transmitting ultrasonic or sonic waves through the object	G01N29/00

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Specific materials	G01N33/00
Automatic analysis; handling materials therefor	G01N35/00
Separation for the preparation or production of components	B01D15/00 B01D21/00 B01D43/00 B01D45/00 B01D53/02 B01D53/14
Chemical or physical processes, e.g. catalysis, colloid chemistry; their relevant apparatus, particularly groups B01J39/00 and B01J41/00 for ion-exchange in general, and B01J20/00 for solid sorbent compositions in general	B01J
Magnetic or electrostatic separation of solid materials from solid materials or fluids; separation by high-voltage electric fields	B03C

Glossary

In this group the following terms or expressions are used with the meanings indicated:

conditioning refers to the adjustment or control of environmental parameters, e.g. temperature or pressure.

Title – G01N31/00

**Investigating or analysing non-biological materials by the use of the chemical method specified in the subgroups;
Apparatus specially adapted for such methods**

Definition statement

This group covers:

The use of:

- precipitation
- catalysis
- combustion, including oxide-reduction reactions
- titration
- micro-analysis, e.g. drop reaction
- chemical indicators

Limiting references

This group does not cover:

Investigating or analysing biological material by chemical analysis G01N33/50

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation G01N1/00

Automatic analysis; handling materials therefor G01N35/00

Measuring or testing processes involving enzymes or micro-organisms C12Q

Special rules of classification

The observation of the progress of the reactions as covered by groups [G01N31/02](#) to [G01N31/22](#) by any of the methods specified in groups [G01N3/00](#) to [G01N29/00](#), if this observation is of major importance, is classified in the relevant group covering the method.

Title – [G01N33/00](#)

Investigating or analysing materials by specific methods not covered by the preceding groups

Definition statement

This group covers:

Investigating or analysing materials, including solid, liquid or gaseous media (see the Notes after the [G01N](#) title) insofar the object, i.e. the material, of the investigation or analysis is of major importance.

Investigating or analysing materials by methods specifically adapted to the object of the analysis.

Investigating or analysing materials by a combination of pre-treatment and analysis, specifically adapted to the object of analysis.

Investigating or analysing biological material by chemical analysis (see group [G01N33/50](#)).

Limiting references

This group does not cover:

Sampling; preparing specimens for investigation G01N1/00

Investigating or analysing materials by methods covered by groups [G01N5/00](#), [G01N7/00](#), [G01N19/00](#) to [G01N31/00](#), or properties of the materials covered by groups [G01N3/00](#), [G01N9/00](#) to [G01N19/00](#) G01N

Automatic analysis; handling materials therefor	G01N35/00
<i>In-vivo</i> sampling from the human or animal body, especially for diagnostic purposes	A61B
Apparatus for enzymology or microbiology	C12M
Methods, other than immunoassay, involving enzymes, nucleic acids, e.g. DNA, RNA, or micro-organisms	C12Q1/00
<i>In-situ</i> analysis of foundation soil or ground water	E02D1/00
<i>In-situ</i> analysis of well fluids	E21B49/00
Analysis as an integrated step of a process insofar the process is fully provided for in another subclass, e.g. analysis of water as integrated step of water treatment process is covered by C02F	C02F

Title – G01N33/50

Investigating or analysing biological material by chemical analysis

Definition statement

This group covers:

Chemical analysis of biological material, e.g. blood, urine.

Testing involving biospecific ligand binding methods.

Use of compounds or compositions for colorimetric, spectrophotometric or fluorometric investigation, e.g. use of reagent paper.

Immunological testing, including immunoassay or materials therefor.

Relationships between large subject matter areas

New peptides or new DNA or its corresponding mRNA, encoding for the peptides, and their use in measuring or testing processes should be classified in subclass C07K or in group C12N9/00 according to the peptides, together with the appropriate classification relating to their use in diagnostics.

Limiting references

This group does not cover:

Medicinal preparations containing antigens or antibodies for therapeutic purposes	A61K39/00
Enzymes, pro-enzymes or compositions thereof per se	C12N9/00
Methods, other than immunoassay, involving enzymes, nucleic acids, e.g. DNA, RNA, or micro-organisms	C12Q1/00

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Automatic analysis; handling materials therefor	G01N35/00
Chemical or physical laboratory apparatus for general use	B01L
Nano-structures, e.g. nano-chips	B82B
Peptides	C07K
Apparatus for enzymology or microbiology	C12M

Special rules of classification

In groups G01N33/52 to G01N33/96, in the absence of an indication to the contrary, classification is made in the last appropriate place.

Glossary

In this group the following terms (expressions) are used with the meanings indicated:

involving when used in relation to a material includes the testing for the material as well as employing the material as a determinant or reactant in a test for a different material

Title – G01N35/00

**Automatic analysis not limited to methods or materials provided for in a single one of the preceding groups;
Handling materials therefor**

Definition statement

This group covers:

Automated apparatus of general applicability in laboratory analytical methods.

Automated clinical laboratory equipment not limited to specific methods.

Methods of operating such apparatus in automatic analysis.

Handling samples and reagents in automatic analysers. Fluid samples may flow along a tube system, or be carried in individual containers.

Limiting references

This group does not cover:

Analysis performed directly on the human or animal body

A61B

Informative references

Attention is drawn to the following places, which might be of interest for search:

Sampling; preparing specimens for investigation	G01N1/00
Specific methods of analysis of biological materials	G01N33/48
Chemical or physical processes, e.g. catalysis, colloid chemistry; their relevant apparatus, for chemical processes in general, including automatic synthesis	B01J19/00
Chemical or physical laboratory apparatus for general use, especially groups B01L3/00 (glassware) and B01L7/00 (heating apparatus).	B01L
Program-control systems for automatic apparatus	G05B19/00
Digital computing or data processing specially adapted for specific functions (G06F17/00), or for specific applications (G06F19/00), and particularly for medical or biological purposes (G06F159:00)	G06F

Glossary

In this group the following terms (expressions) are used with the meanings indicated:

sample material separated from a bulk material or an assembly of items for the purpose of investigating its properties.

Title – G01N37/00

Details not covered by any preceding group

Definition statement

This group covers:

This group is meant as a residual place in the subclass G01N, i.e. for classifying details of methods or apparatus for analysing materials not fully covered by any of the other main groups.

EP/10-SEP-02 :In our opinion, this project is now ready for approval.
Please indicate if you agree.

Heiko Wongel, EPO

SE/22-OCT-02 :SE agrees on approval, with a minor correction. In G01N23, in the
Definition statement it should read short wavelength.



IPC/D 027/01

ORIGINAL: English/French

DATE: September 20, 2002

WORLD INTELLECTUAL PROPERTY ORGANIZATION
ORGANISATION MONDIALE DE LA PROPRIÉTÉ INTELLECTUELLE
GENEVA/GENÈVE

COMMITTEE OF EXPERTS OF THE IPC UNION
COMITÉ D'EXPERTS DE L'UNION DE L'IPC

IPC DEFINITION PROJECT FILE/DOSSIER DE PROJET DE DÉFINITION DE LA CIB

PROPOSAL BY: PROPOSITION DE :	RU	IPC AREA: DOMAINE DE LA CIB :	G 01 M
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ANNEX/ ANNEXE	CONTENT/CONTENU	ORIGIN/ ORIGINE	DATE
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3	Comments / Observations	EP	12.01
4	Comments / Observations	SE	12.01
5	Proposal / Proposition	RU	12.01
6	Rapporteur report / Rapport du rapporteur	RU	12.01
7	Comments / Observations	RO	02.02
8	Comments / Observations	US	02.02
9	Comments / Observations	DE	02.02
10	Rapporteur report / Rapport du rapporteur	RU	03.02
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12	Proposal / Proposition	RU	04.02
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14	Proposal / Proposition	US	06.02
15	Rapporteur report / Rapport du rapporteur	RU	09.02
16	Rapporteur proposal / Proposition du rapporteur	RU	09.02

RAPPORTEUR : RU

TECHNICAL FIELD/DOMAINE TECHNIQUE :

E

ANNEX/ ANNEXE	CONTENT/CONTENU	ORIGIN/ ORIGINE	DATE

Title - G01M

Testing static or dynamic balance of machines or structures; Testing structures or apparatus not otherwise provided for

Definition statement

This subclass is residual place for classifying testing of structures or of apparatus not provided for in any other subclass of the IPC.

This subclass covers:

Methods and apparatus for:

- Determining and compensating static or dynamic unbalance of machine or structures;

Determining the moment of inertia;

Static balancing;

Determining position of center of gravity;

Combined machines or devices for both determining and correcting unbalance.

- Investigating fluid-tightness of structures,

e.g. for cables, tubes, pipes, welds, pipe joints, seals, valves, containers, radiators by using fluid or vacuum or by using infrasonic, sonic, or ultrasonic vibrations or light or by observing electric discharge.

- Investigating the elasticity of structures,

e.g. deflection of bridges, aircraft wings; testing elastic properties of bodies or chassis, e.g. torsion-testing.

- Vibration testing or shock testing of structures.

- Aerodynamic testing,

e.g. wind tunnel;

Arrangements in or on wind tunnels, e.g. aerodynamic models;

Measuring arrangements specially adapted for aerodynamic testing.

- Hydrodynamic testing;

Arrangements in or on ship-testing tanks or water tunnels.

- Testing of optical apparatus;

Testing structures by optical methods not otherwise provided for;

Testing of optical properties of optical apparatus by determining the optical axis or position of lenses;

Testing of mechanical properties of optical apparatus e.g. optical fibers;

Measuring refractive power, geometrical properties or aberrations, material or chromatic transmission properties, the optical modulation transfer function of optical apparatus if such methods are not otherwise provided for.

- Testing of machine parts, such as: sealing rings, gearings, power-transmitting couplings or clutches, power-transmitting endless, e.g. belts, chains, bearings.
- Testing of internal-combustion engines

by monitoring different engine parameters, e.g. pressure, temperature, velocity, vibration, power, detecting misfire, exhaust gases or combustion flame.

- Testing of gas-turbine plants or jet-propulsion plants.
- Testing of wheels, tyres, endless-tracks, suspension, or of damping

as a part of wheeled or endless-traced vehicles or suspension, axles, wheels suspension, or of axles as a part of railway vehicles.

- Testing of sparking plugs

Relationship between large subject matter areas

Testing of particular devices or apparatus is often covered by the respective subclass provided for that devices or apparatus. Testing of particular devices or apparatus is classified in subclass **G01M** only if there is no appropriate place for that subject matter elsewhere.

G01N covers investigating, i.e. testing or determining, the properties of materials, as opposed to testing or determining the properties of structures, e.g. apparatus, machine parts etc, which is covered by **G01M**.

G01B: this subclass covers apparatus, which can be used for investigating the elasticity of structures but not specially adapted for this purposes, e.g. strain gauges.

G01R: this subclass covers instruments for measuring electrical variables: which can be used for balancing machines or devices but not specially adapted for this purposes.

G01H: this subclass covers the combination of generation and measurement of mechanical and other vibrations while subclass **G01M** covers determining unbalance by oscillating or rotating the body to be testing.

H04R: this subclass covers electromechanical transducers producing acoustic waves or variations of electric variables (current or voltage) as opposed to determining unbalance by converting vibrations due to unbalance into electric variables which is covered by **G01M**.

G01L: this subclass covers instruments which can be used for testing of machine parts (gearing, transmission mechanisms), of steering or rolling behavior of vehicles, e.g. measuring efficiency, steering angles, steering forces, but not specially adapted for this purposes.

Limiting references

This subclass does not cover:

Balancing rotary bowls	B04B9/14
Determining vessel properties with respect to stability or balance	B63B9/08
Equipment to decrease pitch, roll, or like unwanted vessel movements; Apparatus for indicating vessel attitude	B63B39/0
Means for holding wheels or parts thereof	B60B30/00
Aircraft stabilisation not otherwise provided for	B64? 17/00
Investigating machinability by cutting tools; Investigating the cutting ability of tools	G01N3/58
Investigating the presence of flaws, defects or contamination	G01N21/88
Investigating presence of flaws or irregularities of material by mechanical methods	G01N19/08
Investigating presence of flaws by the use of microwaves	G01N22/02
Investigating presence of flaws by wave or particle radiation, e.g. X-rays	G01N23/18
Investigating presence of flaws by the use of thermal means	G01N25/72
Investigating presence of flaws by the use of electric, electro-chemical or magnetic means	G01N27/20
Investigating presence of flaws by the use of ultrasonic, sonic or infrasonic waves	G01N27/20
Centering the rotor within the stator;	
Balancing the rotor	H02K15/16

Informative references

References to non-residual places:

Testing of membranes or membrane apparatus	B01D65/10
Equipment to decrease pitch, roll, or like unwanted vessel movements;	
Apparatus for indicating vessel attitude	B63B 39/00

Methods of designing, building, maintaining, converting, refitting, repairing, or determining properties of, vessels, not otherwise provided for	B63B 9/00
Testing of parachutes	B64D21/00
Rocket-engine plants characterised by specially adapted arrangements for testing or measuring	F02K9/96
Testing fuel-injection apparatus, e.g. testing injection timing	F02M65/00
Counterweights;	
Attaching or mounting same	F16F15/28
Correcting- or balancing-weights or equivalent means for balancing rotating bodies, e.g. vehicle wheels	F16F15/32
Testing of ignition installations	F23Q23/00
Testing of ignition installations, e.g. in combination with adjusting	F02P17/00
Testing, calibrating, or compensating of compasses	G01C17/38
Testing or calibrating of weighing apparatus	G01G23/01
Testing or calibrating of thermometers	G01K15/00
Testing or calibrating calorimeters	G01K19/00
Testing brakes	G01L 5/28
Testing or calibrating of apparatus for measuring force, torque, work, mechanical power, or mechanical efficiency	G01L25/00
Testing or calibrating of apparatus for measuring fluid pressure	G01L27/00
Pressure-testing	G01N 3/12
Testing dielectric strength or breakdown voltage	G01R31/12
Arrangements for testing electric properties;	
Arrangements for locating electric faults;	
Arrangements for electrical testing characterised by what is being tested not provided for elsewhere	G01R31/00
Testing electrical properties of sparking-plugs	G01R31/38
Testing or calibrating meteorological apparatus	G01W1/18
Testing correct operation of photographic apparatus or parts thereof	G03B43/00
Monitoring; Testing of fusion reactors	G21C17/00
Testing or measuring during manufacture or treatment of semiconductor devices	H01L21/66
Calibration or testing of analogue/digital or digital/analogue converters	H03M1/10

Monitoring; Testing of line transmission systems	H04B3/46
Monitoring; Testing of relay systems	H04B17/02
Monitoring arrangements; Testing arrangements of acoustic electromechanical transducers	H04R29/00
Diagnosis, testing or measuring for television systems or their details	H04N17/00

Special rules of classification

Glossary

In this subclass, the following terms or expressions are used with the meaning indicated:

- Testing** means process or an apparatus by which the presence, quality, or genuineness of object to be tested is determined
- Calibrating** means process or an apparatus for ascertaining the quality of a measuring device, or checking, adjusting graduations of measuring device
- Monitoring** means process or an apparatus for measuring or testing a condition or change of condition of object to control the object in accordance with the results of the measurement or test

Synonyms and Keywords

FEDERAL INSTITUTE OF INDUSTRIAL PROPERTY

RU Rapporteur report	
Project : D 027	Date: 19. 09.2002
Class/Subclass : G01M	

We used to new template and taken into account comments of the EPO (annex 13 to the project file).

V.Nioukhovsky.

RU/19-SEP-02 :In Rapporteur opinion project could be completed
since no comments have been received from other offices.

SE/22-OCT-02 :SE agrees on approval, but we would like to add as Informative
Reference: `Monitoring; Pipelines; Preventing, monitoring or locating loss.
F17D5/02.



IPC/D 028/01

ORIGINAL: English/French

DATE: September 27, 2002

WORLD INTELLECTUAL PROPERTY ORGANIZATION
ORGANISATION MONDIALE DE LA PROPRIÉTÉ INTELLECTUELLE
GENEVA/GENÈVE

COMMITTEE OF EXPERTS OF THE IPC UNION
COMITÉ D'EXPERTS DE L'UNION DE L'IPC

IPC DEFINITION PROJECT FILE/DOSSIER DE PROJET DE DÉFINITION DE LA CIB

PROPOSAL BY: PROPOSITION DE :	EP	IPC AREA: DOMAINE DE LA CIB :	H 01 H
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ANNEX/ ANNEXE	CONTENT/CONTENU	ORIGIN/ ORIGINE	DATE
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6	Comments / Observations	RO	02.02
7	Comments / Observations	DE	02.02
8	Rapporteur report / Rapport du rapporteur	FR	03.02
9	Rapporteur proposal / Proposition du rapporteur	FR	03.02
10	Proposal / Proposition	EP	09.02
11	Comments / Observations	FR	09.02

RAPPORTEUR : EP

TECHNICAL FIELD/DOMAINE TECHNIQUE :

E

Title – H01H

Electric Switches; Relays; Selectors; Emergency Protective Devices

Definition statement

This subclass covers:

- Electric switches characterised by: the principle of control, the contacts, the voltage or the intensity, the actuation duration, and their manufacture.
- Types of relays, like: electromagnetic, dynamo-electric, magnetostrictive, electrostrictive or piezo-electric, electrostatic, electrothermal, details and manufacture thereof.
- Types, details, and manufacture of selectors
- Casings and the like adapted for a single switch
- Sectionalisers for low-tension, for high tension, and combined with fuses.
- Protective devices like: circuit-breaking switches, protective switches, fuses, evaporation devices, details and manufacture thereof. This subclass also covers (in groups 69/00 to 87/00) devices for the protection of electric lines or electric machines or apparatus in the event of undesired change from normal electric working conditions, the electrical condition serving directly as the input to the device.
- General details like: contacts, mechanisms, mechanical structural details of control members of switches or of keyboards such as keys, push-buttons, levers or other mechanisms for transferring the force to the activated elements are classified in this subclass, even when they are used for controlling electronic switches, and other details.

Relationship between large subject matter areas

Emergency protective circuit arrangements H02H

Limiting references

This subclass does not cover:

Electronic switching or gating, i.e. not by contact-making or -braking

[H03K17/00](#)

Electrolytic self-interrupters

[H01G9/18](#)

Emergency protective circuit arrangements	H02H
Bases, casings, or covers accommodating two or more switching devices or for accommodating a switching device as well as another electric component, e.g. bus-bar, line connector	H02B1/26
Mechanical details directly producing electronic effects	H03K17/94

Informative references

Attention is drawn to the following places, which may be of interest for search:

Contact cables	H01B7/10
Overvoltage protection resistors, resistive arresters	H01C7/12, H01C8/04
Switching devices of the waveguide type	H01P
Devices for interrupted current collection.	H01R39/00
Overvoltage arresters using spark gaps	H01T4/00
Arrangements for locating electric faults; Testing of relays	G01R31/00

Special rules of classification

In this subclass, details are classified as follows:

- details of an unspecified type of switching device, or disclosed as applicable to two or more kinds of switching devices designated by the terms or expressions
- "switches", "relays", "selector switches", and "emergency protective devices", are classified in groups 1/00 to 9/00
- details of an unspecified type of switch, or disclosed as applicable to two or more types of switches as defined by groups 13/00 to 43/00 and subgroups 35/02, 35/06, 35/14, 35/18, 35/24, and 35/42, all hereinafter called basic types, are classified in groups 1/00 to 9/00
- details of an unspecified type of relay, or disclosed as applicable to two or more types of relays as defined by groups 51/00 to 61/00, hereinafter called basic types, are classified in group 45/00
- details of an unspecified protective device, or applicable to two or more types of protective devices as defined by groups 73/00 to 83/00, hereinafter called basic types, are classified in group 71/00.
- However, details only described with reference to, or clearly only applicable to, switching devices of a single basic type, are classified in the group appropriate to switching devices of that basic type, e.g. 19/02, 75/04

Glossary

In this subclass, the following terms or expressions are used with the meaning indicated:

- acting or action** means a self-induced movement of parts at one stage of the switching. These connotations apply to all parts of the verbs "to operate"; "to actuate", and "to act", and to words derived therefrom, e.g. to "actuation".
- driving mechanism** refers to the means by which an operating force applied to the switch is transmitted to the moving contact or contacts
- operating** is used in a broader sense than "actuating" which is reserved for those parts not touched by hand to effect switching
- relay** means a switching device having contacts which are operated from electric inputs which supply, directly or indirectly, all the mechanical energy necessary to cause both the closure and the opening of the contacts
- switch** indicates a single point of mechanically operable electrical connection (or interruption).
- contacts** are meant to indicate the necessary elementary components of a switch that ensure the electrical connection, each switch comprising at least two contacts, and possibly more than two.
- switch site** is indicates the physical location where the contacts can touch each other

Title – H01H27/00

Switches operated by a removable member, e.g. key, plug, plate; Switches operated by setting members according to a single predetermined combination out of several possible settings

Limiting references

This group does not cover:

Switches combined with plug-and-socket connectors

[H01R](#)

Title – H01H41/00

Switches providing a selected number of consecutive operations of the contacts by a single manual actuation of the operating part

Limiting references

This group does not cover:

Switches for telephonic communication

[H04M1/26](#)

Projet IPC / **D028**
Sous-classe **H 01 H**

Réf : annexe 5- observations FR ; annexe 7- observations DE ; annexe 8- rapport EP et annexe 10- proposition EP.

Nous sommes d'accord avec la proposition contenue dans l'annexe 10 du projet D028, sauf sur le point suivant :

Glossaire

Des définitions supplémentaires relatives aux termes 'push-button' et 'key' n'ont pas été introduites dans cette rubrique.

Il est important de préciser la signification de ces termes.

EP/16-SEP-02 :We don't seem to have received comments since our last proposal.
Does this mean we can adopt the definition?

Heiko Wongel

JP/01-OCT-02 :JP approves of the latest Rapporteur Proposal.

SE/22-OCT-02 :SE agrees on approval.

